IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of modeling of the visible world using full-surround image data, said method comprising:

selecting a view point within a p-surface;

selecting a direction of view within the p-surface;

texture mapping full-surround image data onto said p-surface such that the resultant texture map is substantially equivalent to projecting full-surround image data onto the p-surface from said view point to thereby generate a texture mapped p-surface; and

displaying a predetermined portion of said texture mapped p-surface.

Claims 2-16. (Cancelled)

17. (New) The method of claim 1, wherein the p-surface comprises polygons approximating a partial sphere.

18. (New) The method of claim 1, wherein the p-surface comprises one or more polygons such that there exists a half-space for each polygon, and wherein the intersection of all such half-spaces includes at least one point in common.

19. (New) The method of claim 18, wherein a point is within the p-surface if it is included in the intersection.

20. (New) The method of claim 1, wherein the p-surface comprises one or more polygons, and wherein a point is within the p-surface if it is included in the union of a given set of half-planes, wherein the set includes no more than one half-plane per polygon.

21. New) The method of claim 1, wherein the p-surface comprises one or more polygons, and wherein a point is within the p-surface if it is included in the intersection of a given set of half-planes, wherein the set includes no more than one half-plane per polygon.

22. (New) The method of claim 1, wherein the full-surround image data is a sample of incoming image data.

23. (New) A method of modeling a view using incoming image data, comprising the steps of:

texture mapping the incoming image data onto the p-surface to produce a texture mapped p-surface;

displaying a portion of the texture mapped p-surface.

24. (New) The method of claim 23, wherein the displayed portion depends on a viewpoint selected.

25. (New) The method of claim 23, wherein the incoming image data is wide-angle image data.

26. (New) The method of claim 23, wherein the texture mapped p-surface comprises one or more polygons.

27. (New) The method of claim 23, wherein the p-surface is selected from the group consisting of: a hemispherical surface, a hemispherical surface comprising polygons, a surface capable of being texture mapped with a wide-angle view, and a surface capable of being texture mapped with at least part of a wide-angle view.

28. (New) The method of claim 23, wherein the p-surface is selected from the group consisting of: a convex surface , a concave surface, and a planar surface.

29. (New) The method of claim 26, wherein the p-surface comprises polygons approximating a partial sphere.

30. (New) The method of claim 23, wherein the p-surface comprises one or more polygons such that there exists a half-space for each polygon, and wherein all such half-spaces include at least one point in common.

31. (New) The method of claim 30, wherein the at least one point is within the p-surface.

32. (New) The method of claim 30, wherein a point is within the p-surface if it is in the intersection of the half-spaces of the one or more polygons.

33. (New) A method of modeling a view using incoming image data comprising the steps of:

selecting a point associated with a p-surface;

texture mapping incoming image data onto said p-surface such that the resultant texture map is substantially equivalent to projecting incoming image data onto the p-surface from said point to thereby generate a texture mapped p-surface.

34. (New) The method of claim 33, wherein the incoming image data is wide-angle image data.

35. (New) The method of claim 33, wherein the texture mapped p-surface comprises one or more polygons.

36. (New) The method of claim 33, wherein the p-surface is selected from the group consisting of: a hemispherical surface, a hemispherical surface comprising polygons, a surface capable of being texture mapped with a wide-angle view, and a surface capable of being texture mapped with at least part of a wide-angle view.

37. (New) The method of claim 33, wherein the p-surface is selected from the group consisting of: a convex surface, a concave surface and a planar surface.

38. (New) The method of claim 35, wherein the p-surface comprises polygons approximating a partial sphere.

39. (New) The method of claim 33, wherein the p-surface comprises one or more polygons such that there exists a half-space for each polygon, and wherein all such half-spaces include at least one point in common.

40. (New) The method of claim 39, wherein the at least one point is within the p-surface.

41. (New) The method of claim 39, wherein a point is within the p-surface if it is in the intersection of the half-spaces of the one or more polygons.

42. (New) A system for modeling a view using incoming image data comprising:

means for selecting a point associated with a p-surface;

means for texture mapping incoming image data onto said p-surface such that the resultant texture map is substantially equivalent to projecting incoming image data onto the p-surface from said point to thereby generate a texture mapped p-surface.